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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Kwag, Young-Hyeon, *et al.*

Filed: April 15, 2005

Serial No.: 10/531,675

For: MICROORGANISM PRODUCING  
5'-XANTHYLIC ACID

Examiner: KIM, TAEYOON

Group Art Unit: 1651

DECLARATION OF MR. JEONG-HWAN KIM UNDER RULE 1.132

I, Mr. Jeong-Hwan KIM, hereby declare that:

1. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, of both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

2. I am a head of a department in the manufacturing technique center of CJ R&D Center for Bio-products. I received my Bachelor of Science Degree in Industrial Chemistry at Seoul National University in 1985, and my Masters Degree in Industrial Chemistry at Seoul National University in 1987. A full and accurate account of my qualifications including education, publications, and titles, for example, is presented in my *curriculum vitae* (C.V.) as an appendix attached hereto.

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3. I have intensively studied *Corynebacterium ammoniagenes* and their sensitivity to oligomycin as well as their association with the production of 5'-xanthylic acid. I am an inventor of several tens of patent or patent application, including but not limited to the following, for example:

U.S. Patent No. 6,821, 768.

EP Patent No. 1 323 831,

EP Patent No. 1 692 270,

International Application No. WO 2006/059877,

Korean Patent Publication No. KR20020057470,

Korean Patent Publication No. KR20020057471, and

Korean Patent Publication No. KR20020057472.

4. By training and experience, accordingly, I am familiar with the physiological characteristics of *Corynebacterium ammoniagenes* and mutants thereof.

5. I am familiar with the statements in the present file of United States Application Serial No. 010/531,675, the specification, the claims, as well as the Amendment being filed with this Declaration.

6. I am an inventor on the above-identified pending application.

7. I am familiar with *Corynebacterium ammoniagenes* strain CJXOL 0201 described in the subject application for patent (U.S. Serial No. 10/531,675, filed April 15, 2005) that is deposited under the Budapest Treaty at the Korean Culture Center of Microorganisms under accession Number KCCM 10447.

8. I am familiar with *Corynebacterium ammoniagenes* strain AGRI 67-52 described in Livshits, *et al.*, application for patent (U.S. Serial No. 09/988,350, filed November 19, 2001) deposited in the Russian National Collection of Industrial Microorganisms under

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accession Number VKPM B-8004 (*Corynebacterium ammoniagenes* AGRI 67-52 (VKPM B-8004)).

9. Presented here is a Technical Comparison Table which summarizes and compares distinctive physiological features and characteristics of *Corynebacterium ammoniagenes* CJXOL 0201 (Accession Number: KCCM 10447) to those of *Corynebacterium ammoniagenes* AGRI 67-52 (VKPM B-8004).

10. I herein confirm and attest to the fact that the two strains, i.e., *Corynebacterium ammoniagenes* CJXOL 0201 (Accession Number: KCCM 10447) and *Corynebacterium ammoniagenes* AGRI 67-52 (VKPM B-8004), were derived from different lineage, as summarized in the Technical Comparison Table presented herein and are genetically and physiologically distinct strains of *Corynebacterium ammoniagenes*.

11. I further confirm and attest to the fact that *Corynebacterium ammoniagenes* CJXOL 0201 (Accession Number: KCCM 10447) and *Corynebacterium ammoniagenes* AGRI 67-52 (VKPM B-8004) are physiologically distinct, as illustrated by their characteristic and distinct resistance to oligomycin shown in the Technical Comparison Table presented herein.

12. As illustrated in the Table presented herein, I further confirm and attest to the fact that *Corynebacterium ammoniagenes* CJXOL 0201 (Accession Number: KCCM 10447) can grow in 30mg/L oligomycin but cannot grow in over 40mg/L oligomycin, in sharp contrast to *Corynebacterium ammoniagenes* AGRI 67-52 (VKPM B-8004).

Respectfully submitted,

By: KIM Jeong-Hwan

MR. JEONG-HWAN KIM

Date: December 18, 2006

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**BEST AVAILABLE COPY****APPENDIX****CURRICULUM VITAE****PERSONAL INFORMATION**

Name: Jeong-Hwan KIM  
Date of birth: December 27, 1962  
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Home address: 2-303 Kukdong Apt., Garak 2-dong, Songpa-gu, 138-743 Seoul  
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**EDUCATION AND PROFESSIONAL TRAINING**

Bachelor of Science Degree in Industrial Chemistry at Seoul National University in 1985  
Masters Degree in Industrial Chemistry at Seoul National University in 1987  
Completed doctoral program in Industrial Biology and Chemistry at Seoul National University in 1999

**LICENSURE AND PROFESSIONAL EXPERIENCE**

Development of new fermentation technique of L-lysine for competitive cost  
Development of new fermentation technique of nucleic acid for competitive cost  
Establishment and Application of New technique of GMP enzyme  
Establishment of isolation condition of IMP flask strain  
Development of Palatinose production process and industrialization thereof  
Development of enzyme technique for cefazolin  
Development of fermentation process for isomaltooligosaccharide

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# Technical Comparison Table

		Present invention	Ref. 1 (Livshits, et al.)																																													
Consti- tution	Strain	<i>Corynebacterium ammoniagenes</i> CJXOL 0201 (Accession Number: KCCM 10447)	<i>Corynebacterium ammoniagenes</i> AGRI67-52 (Accession Number: VKPM B-8004)																																													
	Geneol-ogy/ feature	<i>C.ammoniagenes</i> KFCC10743 → <i>C.ammoniagenes</i> KCCM10340 → <i>C.ammoniagenes</i> KCCM10447  ►KFCC10743: lysozyme sensitive (possible to grow under the concentration of the lower or 50 µg/mL lysozyme), guanine leaky, high concentration NaCl resistance (possible to grow in 1.9 M NaCl), Thioguanine resistance (possible to grow in 5 g/L Thioproline) ►KCCM10340: Thioproline resistance (possible to grow in 30 g/L Thioproline) ► KCCM10447: Oligomycin resistance (possible to grow in the concentration of the lower or 10 mg/L oligomycin)	<i>C.ammonagenes</i> 225-5 (VKPMB-1073) → <i>C.ammoniagenes</i> AG98-79 (inosine producing bacteria) → <i>C.ammoniagenes</i> AJ13606 → <i>C.ammoniagenes</i> AGRI 67-52  ►AJ13606: XMP production, guanine leaky, high temp. sensitive, Sulfaguanidine resistance ► AGRI 67-52: possible to grow under the concentration of 100 mg/L oligomycin, increasing of XMP production																																													
	Resis- tance to oligo- mycin	<table><tr><td></td><td colspan="8">Concentration of oligomycin (unit: mg/L)</td></tr><tr><td></td><td>0</td><td>5</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>100</td></tr><tr><td>KCCM 10340</td><td>+</td><td>+</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>CJXOL 0201</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AGRI67-52</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr></table> +: growth, -: no growth				Concentration of oligomycin (unit: mg/L)									0	5	10	20	30	40	50	100	KCCM 10340	+	+	+	-	-	-	-	-	CJXOL 0201	+	+	+	+	+	-	-	-	AGRI67-52	+	+	+	+	+	+	+
	Concentration of oligomycin (unit: mg/L)																																															
	0	5	10	20	30	40	50	100																																								
KCCM 10340	+	+	+	-	-	-	-	-																																								
CJXOL 0201	+	+	+	+	+	-	-	-																																								
AGRI67-52	+	+	+	+	+	+	+	+																																								